2002
AMENDMENTS
to the
Career and Technology Studies
Manual for Administrators, Counsellors and Teachers

Summary of Changes

Changes have been made in the following sections of the 1998 *CTS Manual for Administrators, Counsellors and Teachers*.

Front Section
Policies and Guidelines for Implementing CTS Courses (New)

Appendix 1: Planning and Marketing CTS in Your School and Community
Attachment 5: Blackline Masters—CTS Promotional Materials (Revised)

Appendix 6: Policies and Guidelines for Implementing CTS Courses in Senior High Schools (New)

Table of Contents (Revised)

Replace pages v and vi (1998) with **revised** pages v and vi (2002).

Front Section (Revised)

Replace pages 43 and 44 (2000) and pages 45 and 46 (1998) with **revised** pages 43 to 46 (2002).

Appendix 1 (Revised)

Replace Attachment 5, pages 89 and 90 (1999) and accompanying Blackline [illegible]ers (1999) with **revised** pages 89 and 90 (2002) and accompanying [illegible]kline Masters (2002).

Appendix 6 (New)

Following page 328, **add** Appendix 6: Policies and Guidelines for Implementing CTS Courses in Senior High Schools, pages 329 to 336 (2002).

2002
AMENDMENTS
to the
Career and Technology Studies
Manual for Administrators, Counsellors and Teachers

Summary of Changes

Changes have been made in the following sections of the 1998 *CTS Manual for Administrators, Counsellors and Teachers.*

Front Section
Policies and Guidelines for Implementing CTS Courses (New)

Appendix 1: Planning and Marketing CTS in Your School and Community
Attachment 5: Blackline Masters—CTS Promotional Materials (Revised)

Appendix 6: Policies and Guidelines for Implementing CTS Courses in Senior High Schools (New)

Table of Contents (Revised)

Replace pages v and vi (1998) with **revised** pages v and vi (2002).

Front Section (Revised)

Replace pages 43 and 44 (2000) and pages 45 and 46 (1998) with **revised** pages 43 to 46 (2002).

Appendix 1 (Revised)

Replace Attachment 5, pages 89 and 90 (1999) and accompanying Blackline Masters (1999) with **revised** pages 89 and 90 (2002) and accompanying Blackline Masters (2002).

Appendix 6 (New)

Following page 328, **add** Appendix 6: Policies and Guidelines for Implementing CTS Courses in Senior High Schools, pages 329 to 336 (2002).

TABLE OF CONTENTS

This manual is organized into one main introductory section accompanied by relevant charts and forms, and six appendices accompanied by attachments. The charts, forms and attachments are designed to be photocopied for use as they exist, or may be adapted to suit local circumstances.

Tracking Course Completion

Junior high schools need to implement tracking procedures to maintain appropriate records of the courses and/or general outcomes completed by individual students. Tracking procedures can be:

- quite simple, involving the use of a card for each student to record all completed courses and/or outcomes
- more complex, involving spreadsheets and databases.

Tracking procedures at the school level should be complemented with student portfolios and/or other methods of profiling the work completed by individual students. A per cent mark for completed courses is required by senior high schools if prior learning is recognized through the granting of credits.

ASSESSING ACHIEVEMENT IN SENIOR HIGH SCHOOL

Assessing Achievement

Assessment of student achievement in senior high school is based on successfully demonstrating all of the general outcomes for any given course to the standard defined for each competency. Consistent application of curriculum and assessment standards is critical to maintaining the credibility of student learning in CTS courses.

When a student is able to successfully demonstrate all of the general outcomes for any given CTS course to the standard defined for each competency, the teacher designates the course as successfully completed and assigns a percentage grade for the course—a mark not less than 50%.

Reporting Achievement

Each senior high school reports student achievement in CTS courses to the Educational Information Exchange (EIE) on the basis of individual 1-credit courses, using the seven character alphanumeric codes provided on the scope and sequence chart for each CTS strand. Course reporting is done electronically using appropriate file formats, and includes all:

- successfully completed (passed) courses (i.e., courses in which the student has demonstrated all of the general outcomes to the established standard), along with a mark not less than 50% for each successfully completed course
- unsuccessful courses (i.e., courses in which the student has not demonstrated all of the general outcomes to the established standard).

Refer to the *Guide to Education: ECS to Grade 12.*

The senior high school principal may accept a recommendation from the junior high school principal that a student has completed successfully all of the course outcomes and should be given credit. A mark of "P" for pass, or a percentage grade, may be assigned to the student by the senior high school principal. This course can then be included when reporting student achievement through the normal student records system and will appear on the student's transcript.

Refer to the *Funding Manual for School Authorities.*

CTS courses reported as unsuccessful will need to be further identified regarding their eligibility for funding. For information regarding funding, see the Funding for CTS section below.

For information regarding the reporting of challenged courses and courses completed in junior high school, see the CTS in Senior High School, Effective Transitions section of this manual.

As in other senior high school courses, student achievement is reported to students and parents in accordance with local policy.

Tracking Course Completion

Refer to the *Electronic Data Exchange User Guide* and/or *Manual Forms User Guide.*

Tracking systems used by senior high schools to record the completion of individual CTS courses should align with the system used by EIE for reporting student achievement. Schools may choose to supplement their tracking of course completion with information regarding achievement in junior high school.

Course tracking and record keeping at the senior high school level should be complemented with student portfolios and/or other methods of profiling the competencies and learning experiences of individual students.

FUNDING FOR CTS

The sources of funding described below support Alberta Learning's shift to site-based management. Local school systems are responsible for assessing needs and making appropriate funding applications. School systems also retain responsibility for distributing funds to schools equitably.

Basic Instruction Funding

Refer to the *Funding Manual for School Authorities.*

Basic instruction funding for junior high schools is independent of course completion. Funding is based on a per student grant, with the amount of the grant subject to adjustment from time to time.

Basic instruction funding for senior high schools is based on the credit enrollment unit (CEU), and allocated according to the following criteria:

- full CEU funding for successfully completed (passed) courses
- 20% of CEU funding for successfully challenged courses.

A 1-credit CTS course is considered completed for funding purposes when a student has completed at least 50 per cent of the course content. These 1-credit courses should then be reported as withdrawn but eligible for funding.

CEU funding is not provided for high school credits granted upon the recommendations of a junior high school principal.

Further inquiries regarding basic instruction funding should be directed to the School Finance Branch.

Capital Funding

Refer to the *School Capital Funding Policies, Regulations and Guidelines Manual.*

Capital funds are made available each year for new construction and major modernization projects. This funding is provided to school boards for capital projects that may include the upgrading of an existing CTS lab, construction of new space, and associated equipment costs.

Further inquiries regarding capital funding should be directed to the Infrastructure Branch.

Technology Integration Funding

Funding for technology integration is provided to enable schools to replace obsolete computer systems with new systems that are at, or above, defined standards. Technology integration funding can be applied to the purchase of hardware, instructional software and networking components within schools.

Further inquiries regarding technology integration funding should be directed to the Stakeholder Technology Task Group, Alberta Learning.

POLICIES AND GUIDELINES FOR IMPLEMENTING CTS COURSES

Refer to Appendix 6: Policies and Guidelines for Implementing CTS Courses in Senior High Schools.

Appendix 6 provides a summary of the policies and guidelines, as stated in the *Guide to Education: ECS to Grade 12* and the *Funding Manual for School Authorities*, for planning, delivering and reporting CTS courses in senior high schools.

The information included in Appendix 6 clarifies the practices to be followed by senior high schools in:

- providing access to instruction
- offering prerequisite requirements for CTS courses
- integrating CTS and non-CTS courses
- assessing CTS course completion
- determining when a CTS course is eligible for funding
- maintaining the documentation required to support funding claims
- reporting unsuccessful CTS courses.

Blackline Masters—CTS Promotional Materials

CTS Backgrounder

CTS Strand Brochure Series

- Agriculture
- Career Transitions
- Communication Technology
- Community Health
- Construction Technologies
- Cosmetology Studies
- Design Studies
- Electro-Technologies
- Energy and Mines
- Enterprise and Innovation
- Fabrication Studies
- Fashion Studies
- Financial Management
- Foods
- Forestry
- Information Processing
- Legal Studies
- Logistics
- Management and Marketing
- Mechanics
- Tourism Studies
- Wildlife

CTS helps students make cross-curriculum connections.

CTS reinforces and expands what students learn in core and other optional secondary programs, including English language arts, mathematics, science, fine arts and physical education programs.

Support materials have been developed to assist CTS teachers, as well as other teachers, to identify and reinforce the connections throughout the instructional process.

CTS helps students build employability skills.

In each course, CTS students are expected to demonstrate the basic competencies—employability skills—designed to assist them in daily living and in the workplace. These basic competencies include:

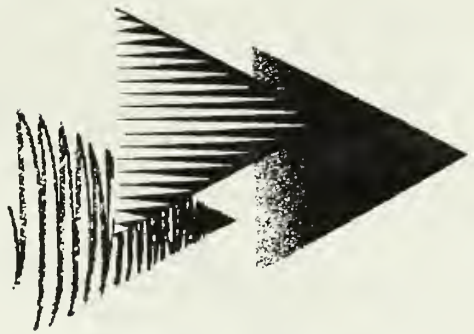
- managing learning
- managing resources
- problem solving and innovation
- communicating effectively
- working with others
- demonstrating responsibility.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career & Technology Studies



BACKGROUNDER

(Revised 2002)

Alberta LEARNING

WHAT IS CTS?

Career and Technology Studies (CTS) is a program designed to help Alberta students:

- develop skills they can apply in daily living now and in the future
- make effective career choices
- prepare for entry into the workplace or further learning opportunities.

As of September 1997, CTS replaced all junior and senior high school practical arts courses—business education, home economics, industrial education. This optional program affects all junior and senior high schools in Alberta (over 740). CTS was phased in beginning in 1992.

Over 2400 Albertans, teachers, post-secondary institutions, business and professional groups and other government departments, have been involved in the development of this curriculum. The CTS curriculum is also offered in some adult learning environments and is being considered for use in other provinces and countries.

The CTS curriculum structure is different from other courses, allowing schools more opportunity to design programs that are relevant to student needs and make more efficient use of school and community resources.

CTS is organized into ***strands*** and ***courses***. A ***strand*** is a group of courses designed to support broad career and occupational opportunities. A ***course*** defines what the student is expected to know and be able to do. Most students take 25 hours to complete each course, although some students need more or less time. At the senior high school level, one course, successfully completed, equals one credit.

CTS consists of 22 strands, and over 650 courses, which are available to junior and senior high schools across Alberta.

CTS Strands	No. of Courses
Agriculture	33
Career Transitions	34
Communication Technology	33
Community Health	31
Construction Technologies	46
Cosmetology Studies	58
Design Studies	31
Electro-Technologies	37
Energy and Mines	26
Enterprise and Innovation	08
Fabrication Studies	41
Fashion Studies	29
Financial Management	14
Foods	37
Forestry	21
Information Processing	48
Legal Studies	13
Logistics	12
Management and Marketing	20
Mechanics	54
Tourism Studies	24
Wildlife	17

The curriculum is competency based and recognizes prior learning both from formal schooling and community or personal initiatives. Standards for each of the courses are clearly specified and rigorous.

Senior high school transcripts report only those CTS courses that students have completed successfully.

WHO TAKES CTS?

During the 2000–2001 school year, approximately 89% of Alberta senior high school graduates earned 6 or more credits in CTS courses. During the same school year, students awarded an Alberta High School Diploma earned an average of 116 credits in total with 18 credits in CTS courses.

HOW DOES CTS AFFECT STUDENT LEARNING?

CTS improves student transitions into the workplace and post-secondary programs.

One of the key goals in CTS is to improve student transitions into the workplace and into related post-secondary programs.

Post-secondary institutions participated in the development and validation of CTS strands and courses to ensure alignment with further learning opportunities. Many advanced-level CTS courses align with the content of introductory post-secondary courses in the same content areas. Students who pursue advanced levels of CTS may achieve the competencies required in some introductory post-secondary courses.

In addition, a number of credentials and certificates recognized by professional groups and in the workplace can also be obtained through CTS. For example, a St. John Ambulance Certificate for First Aid can be obtained through the CTS Community Health strand. CTS programs also encourage a variety of delivery approaches, including off-campus programs and workplace learning.

What ELSE do I need to know?

CTS Agriculture courses strongly support what you learn in:

- Biology
- Chemistry
- Social Studies
- CTS Construction Technologies
- CTS Design Studies
- CTS Enterprise and Innovation
- CTS Fabrication Studies
- CTS Foods
- CTS Forestry
- CTS Mechanics
- CTS Wildlife.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies

AGRICULTURE

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

Agriculture is the second largest industry in Alberta. Most of us think of it as farming, but any farmer can tell you it's much bigger than that.

The CTS Agriculture strand provides an opportunity for you to explore:

- animal production
- field, nursery and greenhouse plant production
- the agrifood industry
- animal care
- floral design
- interior and exterior plantscape
- soils management and conservation
- market research and development
- environmental management.

What will I LEARN in Agriculture?

At the introductory level, you study:

- the agriculture industry in Alberta
- basics of agricultural production
- marketing fundamentals in the Canadian context
- an overview of agricultural technology
- resource management and conservation.

At the intermediate and advanced levels, you study:

- agriculture in the global economy
- emerging technologies
- environmental sustainability
- specialized knowledge and skills in particular areas of interest.

Agriculture Courses

Introductory

- Agriculture: The Big Picture
- Production Basics
- Consumer Products & Services
- Basic Landscape/Turf Care
- Basic Floral Design
- Market Fundamentals
- Agriculture Technology
- Resource Management

Intermediate

- Animal Husbandry/Welfare
- Field Crops 1 (Materials & Processes)
- Livestock/Poultry 1 (Materials & Processes)
- Agrifoods 1 (Materials & Processes)
- Landscape/Turf Management 1 (Maintenance Practices)
- Equine 1 (Materials & Processes)
- Floral Design 1 (Projects for All Occasions)
- Marketing 1 (Open Marketing Structures)
- Protected Structures
- Soils Management 1 (Soil Properties/Classification)
- Integrated Pest Management
- Nursery/Greenhouse Crops 1 (Materials & Processes)

Advanced

- Issues in Agriculture
- Field Crops 2 (Management Techniques)
- Livestock/Poultry 2 (Management Techniques)
- Agrifoods 2 (Standards & Regulation)
- Landscape/Turf Management 2 (Installation & Repair)
- Equine 2 (Management Techniques)
- Floral Design 2 (Creative Design & Display)
- Marketing 2 (Closed Marketing Structures)
- Biotechnology
- Water Management
- Soils Management 2 (Soil Testing & Amending)
- Sustainable Agriculture Systems
- Nursery/Greenhouse Crops 2 (Management Techniques)

WHERE can this TAKE me?

Jobs! As the second largest industry in Alberta, agriculture creates a broad range of employment options. Over 80 potential careers have been identified, including:

- engineers
- farmers and farm managers
- greenhouse/nursery operators
- land surveyors
- landscape architects
- mechanics
- researchers
- pet groomers
- veterinarians.

Post-secondary Education! About two-thirds of the careers in agriculture require some form of post-secondary education. In Alberta, almost every college and university offers programs in agriculture.

In addition, you may be eligible to apply for either credits or advanced standing in some post-secondary programs.

See your counsellor for more information.

What ELSE do I need to know?

Beeause of its emphasis on praetieal employment skills, Career Transitions supports your entire high school experienee.

This CTS strand is linked to what you learn in:

- Personal Development
- Social Studies
- all other CTS strands.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ea/k_12/eurrieulum/bySubjeet/ets/>
- eontaet the Program Manager, Career and Teehnology Studies, Curriculum Braneh, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be eonneeted toll free.

Sehool systems/schools please eontaet the CTS Program Coordinator for your jurisdietion.

Career and Technology Studies

CAREER TRANSITIONS

(Revised 2002)

Alberta
LEARNING

WHAT'S it all ABOUT?

Choosing what you want to do after high school, and knowing how to achieve that goal, can be challenging. The Career Transitions strand gives you the skills you need to make critical decisions as you move toward graduation. It helps you:

- develop decision-making skills
- recognize the value of the knowledge and skills you already possess
- set realistic career goals
- understand the expectations of employers
- prepare for the experience of finding a job.

What will I LEARN in Career Transitions?

You learn about:

- the job market and employment trends
- selected occupations
- good work habits
- resume writing
- interview skills
- project design and management
- leadership principles and practices
- personal and workplace safety.

Career Transitions Courses

Introductory

- Job Preparation
- Leading by Example
- Client Service 1
- Project 1A and 1B
- Personal Safety (Management)
- Career Directions—Foundations

Intermediate

- Job Maintenance
- Taking the Lead
- Governance & Leadership
- Client Service 2
- Project 2A, 2B, 2C, 2D and 2E
- Workplace Safety (Practices)
- Career Directions—Expansion

Advanced

- Preparing for Change
- Organizational Leadership
- Leading for Change
- Practicum A, B, C, D and E
- Client Service 3
- Project 3A, 3B, 3C, 3D and 3E
- Safety Management Systems
- Career Directions—Transitions

WHERE can this TAKE me?

Career Transitions provides knowledge and skills that can be of value no matter what career you choose. It provides essential job search and employment skills that can be used throughout your work life.

You may be able to use some of the Career Transitions courses to gain certificates in First Aid and Job Safety Skills.

See your counsellor for more information.

What ELSE do I need to know?

CTS Communication Technology courses strongly support what you learn in:

- Fine Arts
- English Language Arts
- Social Studies
- CTS Design Studies
- CTS Enterprise and Innovation
- CTS Information Processing.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies

COMMUNICATION TECHNOLOGY

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

The information age of the 21st century requires effective communication, using a variety of media. Communication Technology can provide you with a broad awareness of the impact that presentation and communication technology, print, photography, and media design and application have in every aspect of your life.

The CTS Communication Technology strand provides an opportunity for you to explore:

- presentation techniques
- photography
- print communication
- audio/video/digital.

What will I LEARN in Communication Technology?

At the introductory level, you study:

- presentation and communication
- photography
- printing
- audio/video production
- animation
- digital design.

At the intermediate and advanced levels, you study:

- media design and analysis
- script writing
- photojournalism.

Communication Technology Courses

Introductory

- Presentation & Communication 1
- Media & You
- Photography 1
- Printing 1
- Audio/Video Production 1
- Animation 1
- Digital Design 1

Intermediate

- Presentation & Communication 2
- Media Design & Analysis 1
- Script Writing 1
- Photography 2
- Photographic Communication
- Photographic Techniques 1
- Printing Techniques 1
- Printing Applications 1
- Audio/Video 1
- Audio/Video 2
- Animation 2
- Digital Design 2
- Special Effects Photography

Advanced

- Presentation & Communication 3
- Media Design & Analysis 2
- Script Writing 2
- Photography 3
- Photojournalism
- Photographic Techniques 2
- Colour Photography
- Printing Techniques 2
- Printing Applications 2
- Audio 3
- Video 3
- Animation 3
- Digital Design 3

WHERE can this TAKE me?

The knowledge and skills gained from studying communication technology can be used in a variety of career fields and numerous post-secondary education choices. These skills give students an edge in presenting their views and ideas, in understanding others and in completing projects. The areas most affected by communication technology include:

- animation
- graphic design
- journalism
- photography
- radio and television arts.

What ELSE do I need to know?

Courses that support what you learn in Community Health are:

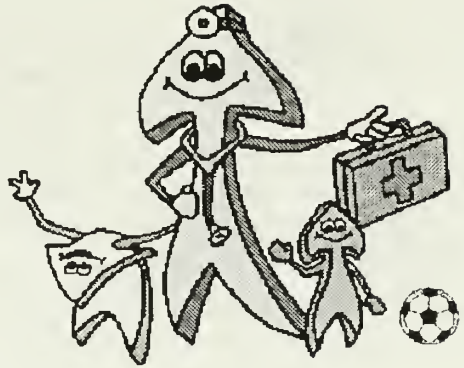
- Biology
- Health and/or Personal Development
- English Language Arts
- Science
- Social Studies
- CTS Career Transitions
- CTS Design Studies
- CTS Foods
- CTS Information Processing.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



COMMUNITY HEALTH

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

The World Health Organization defines health as "a state of physical, mental and social well-being and not merely the absence of disease or infirmity." Good health is more than personal wellness and self-discipline. It involves getting along with others, a personal state of control, the ability to cope with stress, minimizing health risks, and supporting meaningful work, as well as a clean, safe environment.

The 21st century will see new medical technology and new ideas and directions in health care. Shifts in the economy, social behaviours and expectations, and changes in technology and communication present opportunities and challenges for individuals, families and communities. In the CTS Community Health strand, you can explore these challenges. You can:

- review the social, physical, economic and cultural conditions that affect the wellness of individuals, families and communities
- become a knowledgeable and responsible health consumer
- explore healthy lifestyles.

What will I LEARN in Community Health?

You can choose from courses on:

- family dynamics
- adolescent health issues
- community volunteerism
- caring for children
- home care or day care
- prenatal and postnatal care
- anatomy, physiology and pathology
- mental health
- first aid and sports first aid.

Community Health Courses

Introductory

- Family Dynamics
- Caring for Children
- Child Development
- Home Care 1
- Perspectives on Health
- Personal Safety (Management)

Intermediate

- Adolescent Health Issues
- Community Volunteerism
- Day Care 1
- Home Care 2 (Personal Care Services)
- Sensory Challenges
- Respiratory System
- Circulatory System
- Musculoskeletal System
- Complementary Therapies
- First Aid/CPR
- Sports First Aid 1

Advanced

- Family Issues
- Parenting
- Aging
- Prenatal & Postnatal Care
- Day Care 2
- Home Care 3 (Special Conditions)
- Challenged Individuals
- Digestive System
- Nervous/Endocrine Systems
- Mental Health
- Advances in Medical Technology
- First Aid/CPR for Children
- Sports First Aid 2
- Perspectives on Marriage

WHERE can this TAKE me?

Community health careers are expected to be strong areas of job growth in the next decade. The range of possible occupations is large, and includes:

- child care workers
- family counsellors
- doctors and nurses
- emergency response technicians
- medical technologists
- nutritionists
- public health nurses
- sports medicine technicians.

Post-secondary Education! Almost every post-secondary institution in Alberta offers health and health-related courses.

In addition, Community Health courses provide opportunities for students to earn partial or complete credentials recognized by community organizations and agencies.

See your counsellor for more information.

What ELSE do I need to know?

CTS Construction Technologies courses strongly support what you learn in:

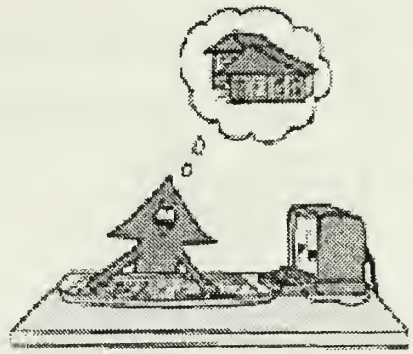
- English Language Arts
- Mathematics
- Science
- Social Studies
- CTS Agriculture
- CTS Career Transitions
- CTS Design Studies
- CTS Electro-Technologies
- CTS Enterprise and Innovation
- CTS Fabrication Studies
- CTS Forestry
- CTS Logistics.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



CONSTRUCTION TECHNOLOGIES

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

In recent years, dramatic changes have occurred in the way buildings and other products are designed and constructed. With the aid of computers, architects and engineers are able to simulate and evaluate designs with extreme accuracy. This means stronger structures, less waste and the need for a highly trained work force. The Construction Technologies strand has been developed to help meet this need.

The CTS Construction Technologies strand provides an opportunity for you to explore:

- building systems, processes and applications
- materials and tools
- design and construction of buildings and durable goods
- standards of quality production and service
- manufacturing systems, processes and applications
- health, safety and environmental issues
- codes for building construction and manufacturing activities.

What will I LEARN in Construction Technologies?

At the introductory level, you study:

- construction and fabrication processes
- project planning and management
- solid stock construction
- turning operations.

At the intermediate and advanced levels, you study:

- site preparation
- concrete work
- energy-efficient housing design
- commercial structures, furniture and cabinet making
- production management.

Construction Technologies Courses

Introductory

- Basic Tools & Materials
- Building Construction
- Project Management
- Solid Stock Construction
- Turning Operations
- Manufactured Materials
- Mold Making & Casting

Intermediate

- Site Preparation
- Concrete Forming
- Alternative Foundations
- Framing Systems 1 (Floor & Wall)
- Roof Structures 1 (Framing & Finishing)
- Exterior Finishing (Door, Window & Siding)
- Electrical Systems
- Plumbing Systems
- Climate Control Systems
- Agri-structures
- Multiple Materials
- Furniture Making 1 (Box Construction)
- Furniture Making 2 (Frame & Panel)
- Finishing & Refinishing
- Cabinetmaking 1 (Web & Face Frame)
- Cabinetmaking 2 (Door & Drawer)
- Wood Forming
- Manufacturing Systems
- Product Development

Advanced

- Concrete Work (Structures & Finishes)
- Masonry Work (Structures & Finishes)
- Wall & Ceiling Finishing
- Stair Construction
- Roof Structures 2 (Framing & Covering)
- Doors & Trim
- Floorcovering
- Energy-efficient Housing
- Renovations/Restorations
- Commercial Structures
- Site Management
- Tool Maintenance
- Furniture Making 3 (Leg & Rail)
- Furniture Making 4 (Surface Enhancement)

Advanced (continued)

- Furniture Repair
- Cabinetmaking 3 (Cabinets/Countertops)
- Cabinetmaking 4 (Layout & Installation)
- Production Planning
- Production Management
- Framing Systems 2 (Floor, Wall & Ceiling)

WHERE can this TAKE me?

Knowledge and skills developed in the Construction Technologies strand enable students to move into more than 30 occupations requiring high school or trades education. These include:

- cabinetmakers
- construction estimators
- construction inspectors
- construction managers
- carpenters
- elevator contractors
- painters and decorators
- plumbers
- renovators
- residential home builders.

Post-secondary Education! Many careers in construction technologies require some form of post-secondary education. In Alberta, numerous public, private and vocational colleges offer apprenticeship programs in this area.

In addition, you may be eligible to apply for either credits or advanced standing in some post-secondary programs.

See your counsellor for more information.

What ELSE do I need to know?

The CTS Cosmetology Studies strand has links to the following courses:

- Chemistry
- Personal Development
- Social Studies
- Registered Apprenticeship Program
- CTS Career Transitions
- CTS Design Studies
- CTS Enterprise and Innovation.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies

COSMETOLOGY STUDIES

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

Personal appearance is important in every culture. It reflects society and how we see ourselves in it. Cosmetology—hair, makeup, and general grooming—is a large part of the huge fashion industry, and is a supporting player in the entertainment industry as well. The CTS Cosmetology Studies strand offers instruction and experience in personal and professional body care and grooming practices.

What will I LEARN in Cosmetology Studies?

This strand provides basic and career-specific skills that enable you to choose between employment opportunities or post-secondary cosmetology-related studies.

Specific skills include:

- hair care
- skin care
- manicuring
- theatrical makeup
- cosmetics and design
- business management.

Cosmetology Studies Courses

Introductory

- Personal Images
- Hair Graphics 1
- Hair & Scalp Care 1
- Forming & Finishing 1
- Permanent Waving 1 (The Physical Process)
- Skin Care 1 (Basic Practices)
- Manicuring 1
- Theatrical Makeup 1 (Basic Principles)

Intermediate

- Hair Graphics 2
- Hair & Scalp Care 2
- Forming & Finishing 2
- Haircutting 1
- Hair Care & Cutting 1 (Client Services)
- Permanent Waving 2 (Cold Waving)
- Permanent Waving 3 (Heat-assisted)
- Permanent Waving 4 (Client Services)
- Colouring 1
- Colour Removal 1
- Colouring & Removal 1 (Client Services)
- Facials & Makeup 1
- Facials & Makeup 2 (Client Services)
- Skin Care 2 (Client Services)
- Manicuring 2
- Nail Art
- Manicuring 3 (Client Services)
- Hairpieces & Extensions
- Theatrical Makeup 2 (Planning the Images)
- Historical Cosmetology
- Sales & Service 1 (Principles & Practices)

Advanced

- Professional Practices
- Long Hair Graphics
- Hair & Scalp Care 3
- Hair & Scalp Care 4 (Client Services)
- Haircutting 2
- Haircutting 3 (Client Services)
- Hair Care & Cutting 2 (Client Services)
- Permanent Waving 5 (Designer)
- Relax/Straighten Hair
- Wave, Relax & Straighten Hair (Client Services)
- Colouring 2 (Permanent)

Advanced (continued)

- Colour Removal 2
- Colouring & Removal 2 (Client Services)
- Body Therapy
- Hair Removal
- Skin Care 3 (Client Services)
- Male Facial Grooming 1
- Male Facial Grooming 2 (Client Services)
- Nail Technology
- Pedicuring
- Nail Care (Client Services)
- Wigs & Toupees
- Hair Goods (Client Services)
- Theatrical Makeup 3 (Changing Images)
- Theatrical Makeup 4 (Client Services)
- Facial & Body Adornment
- Creative Cosmetology
- Sales & Service 2 (Effectiveness)
- Competition Cosmetology

WHERE can this TAKE me?

There will always be demand for cosmetology services in society. This is an exciting field to explore, if you enjoy personal service, would like to own your own business, or are interested in fashion or design. Some of the potential careers are:

- electrologists
- hairstylists
- makeup artists
- theatrical makeup artists.

Post-secondary Education! Many careers in cosmetology studies require some form of post-secondary education. In Alberta, numerous public, private and vocational colleges offer apprenticeship programs in this area.

In addition, you may be eligible to apply for either credits or advanced standing in some post-secondary programs.

See your counsellor for more information.

What ELSE do I need to know?

The notion of design can be found in:

- Art
- Drama
- Science
- CTS Communication Technology
- CTS Construction Technologies
- CTS Enterprise and Innovation
- CTS Fabrication Studies
- CTS Fashion Studies
- CTS Management and Marketing.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies

DESIGN STUDIES

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

Design surrounds us. Everyone designs every day. Signs, displays, packages, road systems, computer games, furniture, automobiles, clothing, banquets, houses and highrises are all examples of professional design. CTS Design Studies helps you become aware of design in your environment. You solve visual, structural and organizational problems, and apply your skills and knowledge to create innovative approaches, products and systems.

The CTS Design Studies strand provides an opportunity for you to explore:

- creativity and aesthetics
- processes
- resources
- communication
- project management
- the business and profession of design.

What will I LEARN in Design Studies?

At the introductory level, you study:

- sketching, drawing and modelling
- the design process
- two-dimensional design
- three-dimensional design
- computer-aided design.

At the intermediate and advanced levels, you study:

- technical drawing/drafting
- design history
- skills to create a specialized design portfolio in your area of interest.

Design Studies Courses

Introductory

- Sketch, Draw & Model
- The Design Process
- 2-D and 3-D Design Fundamentals
- CAD Fundamentals (Computer-aided Design)
- Drafting/Design Fundamentals

Intermediate

- 2-D and 3-D Design Applications
- CAD Applications (Computer-aided Design)
- Drafting/Design Applications
- Technical Drawing Applications
- The Evolution of Design

Advanced

- 2-D Design Studio 1, 2 and 3
- 3-D Design Studio 1, 2 and 3
- Living Environment Studio 1, 2 and 3
- CAD Modelling Studio (Computer-aided Design)
- Drafting/Design Studio 1, 2 and 3
- Technical Drawing Studio 1, 2 and 3
- Visualizing the Future
- The Design Profession
- Portfolio Presentation

WHERE can this TAKE me?

The ability to solve many different kinds of design challenges creates a broad range of employment options. Potential careers include:

- architects
- draftsmen
- engineers
- exhibition/display designers
- fashion designers
- furniture designers
- graphic designers
- industrial (product) designers
- interior designers
- landscape designers
- set designers.

Post-secondary Education! Development of marketable skills in design requires post-secondary training. All universities in Alberta and most colleges and technical institutes offer programs in various areas of design.

See your counsellor for more information.

What ELSE do I need to know?

CTS Electro-Technologies courses strongly support what you learn in:

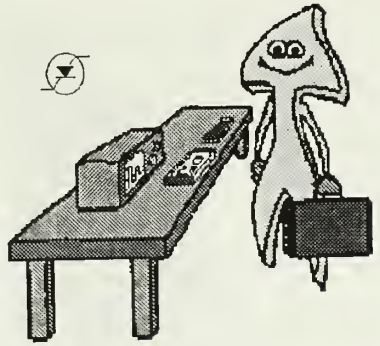
- Drama
- English Language Arts
- Mathematics
- Physics
- Science
- CTS Career Transitions
- CTS Community Health
- CTS Construction Technologies
- CTS Design Studies
- CTS Enterprise and Innovation
- CTS Fabrication Studies
- CTS Information Processing
- CTS Mechanics.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



ELECTRO-TECHNOLOGIES

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

In a rapidly changing and expanding technological world, we are constantly surrounded by an increasing number of electric and electronic systems. These systems play a significant role in our day-to-day lives, and in the success of major research and development in science.

The CTS Electro-Technologies strand provides an opportunity for you to explore:

- fabrication and service principles
- power systems
- computer logic systems
- communication systems
- robotic and control systems.

What will I LEARN in Electro-Technologies?

At the introductory level, you study:

- electro-assembly
- electronic power supply
- logic principles
- analog communication.

At the intermediate and advanced levels, you study:

- branch circuit wiring
- digital technology
- radio frequency communication
- magnetic control devices
- power generation and transformation
- microprocessor interfacing applications
- robotics.

Electro-Technologies Courses

Introductory

- Electro-assembly 1
- Conversion & Distribution
- Electronic Power Supply 1
- Digital Technology 1
- Control Systems 1
- Analog Communication 1
- Electronic Communication
- Security Systems 1
- Robotics 1

Intermediate

- Electro-assembly 2
- Electrical Servicing
- Branch Circuit Wiring
- Electronic Power Supply 2
- Digital Technology 2
- Computer Technology
- Control Systems 2
- Analog Communication 2
- Radio Communication
- Security Systems 2
- Electro-optics
- Magnetic Control Devices
- Robotics 2
- Electronic Controls

Advanced

- Electro-assembly 3
- Electronic Servicing
- Power Systems & Services
- Generation/Transformation
- Digital Technology 3
- Digital Applications
- Microprocessors
- Microprocessor Interface
- Analog Communication 3
- Amplifiers
- Data/Telemetry Systems
- Motors
- Robotics 3
- Control Applications

WHERE can this TAKE me?

The CTS Electro-Technologies strand offers you skills and knowledge in electronics and electrical applications, including fabrication or servicing of electronic equipment, house wiring, use of remote control devices and programming of robots. You will be introduced to a wide variety of occupations in this field, including:

- audio and video recording technicians
- avionics technicians
- broadcast technicians
- communication electricians
- electrical and electronic engineers
- electrical products manufacturing supervisors
- fibre optics technicians
- laser technicians
- power system electricians
- utilities managers.

Post-secondary Education! Many careers in electro-technologies require some form of post-secondary education. In Alberta, numerous public, private and vocational colleges offer apprenticeship programs in this area.

In addition, you may be eligible to apply for either credits or advanced standing in some post-secondary programs.

See your counsellor for more information.

What ELSE do I need to know?

CTS Energy and Mines courses strongly support what you learn in:

- Chemistry
- Physics
- Science
- CTS Agriculture
- CTS Construction Technologies
- CTS Design Studies
- CTS Fabrication Studies
- CTS Legal Studies
- CTS Management and Marketing
- CTS Wildlife.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies

ENERGY AND MINES

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

Alberta is richly endowed with oil, gas, oil sands, heavy oil and coal, and these resources are, and will continue to be, major contributors to our province's economy. Mineral development for industrial applications has significant effects on Alberta's economy as well.

The CTS Energy and Mines strand provides an opportunity for you to explore:

- exploration
- recovery and production
- refining and manufacturing
- marketing
- energy design and conservation
- environmental management.

What will I LEARN in Energy and Mines?

At the introductory level, you study:

- Alberta geological survey
- renewable and nonrenewable resources
- the conservation challenge
- consumer products and services
- fundamentals of recycling.

At the intermediate and advanced levels, you study:

- managing Alberta's energy and minerals
- exploration, recovery and production techniques
- refining and manufacturing
- renewable energy technology
- the energy–environment connection
- low energy designs and systems.

Energy and Mines Courses

Introductory

- Overview of Alberta Geology
- Nonrenewable Resources
- Renewable Resources
- Consumer Products & Services
- Fundamentals of Recycling
- Conservation Challenge

Intermediate

- Managing Alberta's Resources
- Conventional Oil/Gas 1 (Resource Exploration)
- Oil Sands/Heavy Oil/Coal 1 (Resource Exploration)
- Metals/Nonmetals 1 (Resource Exploration)
- Renewable Energy Technology
- Refining Hydrocarbons
- Refining Rocks & Minerals
- Supply & Distribution
- Energy Designs/Systems 1 (Basic Principles)
- Environmental Safety

Advanced

- Energy & the Environment
- Conventional Oil/Gas 2 (Recovery & Production)
- Oil Sands/Heavy Oil/Coal 2 (Recovery & Production)
- Metals/Nonmetals 2 (Recovery & Production)
- Sustainable Energy (The Power & Potential)
- Petrochemicals
- Industrial Materials (Primary Manufacturing)
- Market Basics & Trends
- Energy Designs/Systems 2 (Practical Applications)
- Integrated Resource Management (Balancing Needs)

WHERE can this TAKE me?

Jobs! Fossil fuels and alternative sources of energy are crucial for the future industrial development of Alberta and Canada. There is a broad range of employment options in the energy and mining area. Over 70 potential careers have been identified, including:

- environmental engineers
- field production operators
- gas plant operators
- geologists, geochemists and geophysicists
- mechanical engineers
- mining engineers
- nuclear engineering technicians
- oil pipeline operators
- petroleum engineering technologists.

Post-secondary Education! About two-thirds of the careers in energy and mines require some form of post-secondary education. In Alberta, almost every college and university offers programs in this area.

In addition, you may be eligible to apply for either credits or advanced standing in some post-secondary programs.

See your counsellor for more information.

What ELSE do I need to know?

CTS Enterprise and Innovation courses strongly support knowledge and skills learned in all courses and other CTS strands. They also help you expand on the possibilities offered by other strands, and help you become:

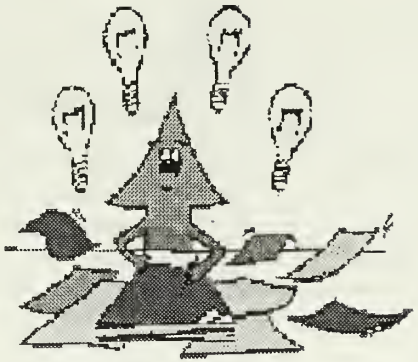
- more accepting of both success and failure as learning opportunities
- more aware of public and private sector development initiatives and investments
- more comfortable with change and innovation
- more entrepreneurial in any career
- more sophisticated consumers of business services.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



ENTERPRISE AND INNOVATION

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

Enterprise and Innovation encourages you to develop your confidence, experience and skills as innovators and leaders. You learn to recognize opportunities around you, and turn them into success in any career, whether as a volunteer, an employer or an employee.

The CTS Enterprise and Innovation strand provides an opportunity for you to explore:

- creative thinking
- goal setting
- communicating
- researching/organizing
- decision making/problem solving
- using information and technology effectively
- team-building
- managing
- planning.

What will I LEARN in Enterprise and Innovation?

At the introductory level, you learn about:

- creating venture opportunities
- challenge and opportunity
- planning a venture.

At the intermediate and advanced levels, you learn about:

- analyzing ventures
- financing ventures
- marketing the venture
- implementing the venture
- managing the venture
- expanding the venture.

Enterprise and Innovation Courses

Introductory

- Challenge & Opportunity
- Planning a Venture

Intermediate

- Analyzing Ventures
- Financing Ventures
- Marketing the Venture
- Implementing the Venture

Advanced

- Managing the Venture
- Expanding the Venture

WHERE can this TAKE me?

As you move toward independence and increased responsibility, you will make crucial career decisions. In view of the frequent career changes that you can expect to experience throughout your work life, you need to develop knowledge and skills that can be transferred readily. At the same time, opportunities to explore career options can help you invest your energies more effectively in those occupational areas you are interested in. The Enterprise and Innovation strand will help in any career, whether as a volunteer, an employer or an employee.

In the CTS Enterprise and Innovation strand, you have the opportunity to develop and implement venture plans that are community-, service-, public service-, or profit-related. For example, you may:

- establish a business venture
- establish a volunteer, community or service program
- plan, market and manage an event or a conference
- produce, market and distribute a book or a video.

See your counsellor for more information.

What ELSE do I need to know?

This CTS strand is linked to what you learn in:

- English Language Arts
- Mathematics
- Science
- Social Studies
- CTS Agriculture
- CTS Construction Technologies
- CTS Design Studies
- CTS Energy and Mines
- CTS Enterprise and Innovation
- CTS Logistics
- CTS Mechanics.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/ets/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies

FABRICATION STUDIES

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

Metal produets and struetures have shaped world history. Even today, the seareh eontinues to develop new metals, processes and produets for the 21st century.

Fabrication Studies will give you the opportunity to investigate and develop the knowledge and skills necessary to transform metal and other related materials into various produets and struetures, and to use this knowledge to make informed earcer choices.

The CTS Fabrication Studies strand provides an opportunity for you to explore:

- materials and structures
- fabrieation processes, such as eutting, bending, joining and finishing
- production systems and processes, sueh as casting and maehining.

What will I LEARN in Fabrication Studies?

At the introductory level, you study:

- eonstruction and fabrication processes
- welding skills
- fabrieation prineiples
- prineiples of machining
- production systems.

At the intermediate and advanced levels, you study:

- structural design and engineering
- print reading
- forging fundamentals
- material testing
- foundry
- computer numerical controlled turning and milling.

Fabrication Studies Courses

Introductory

- Fabrication Tools & Materials
- Oxyaeetylene Welding
- Basic Electric Welding
- Sheet Fabrieation 1 (Hand Proeesses)
- Fabrieation Prineiples
- Bar & Tubular Fabrieation
- Foundry 1 (One-piece Pattern)
- Prineiples of Maehining
- Production Systems

Intermediate

- Struetural Engineering
- Print Reading
- Oxyfuel Welding
- Thermal Cutting
- Are Welding 1 and 2
- Gas Metal Are Welding 1
- Sheet Fabrieation 2 (Maehine Proeesses)
- Sheet Fabrieation 3 (Parallel Line)
- Forging Fundamentals
- Foundry 2 (Split Pattern)
- Preeision Turning 1
- Preeision Milling 1
- CNC Turning (Computer Numerieal Control)
- Custom Fabrieation
- Pipe Fitting

Advanced

- Materials Testing
- Metallurgy Fundamentals
- Gas Tungsten Are Welding
- Speeialized Welding
- Are Welding 3 and 4
- Pipe & Tubular Welding
- Automated Welding
- Sheet Fabrieation 4 (Radial Line)
- Sheet Fabrieation 5 (Duet Components)
- Foundry 3 (Core Molding)
- Preeision Turning 2
- Preeision Milling 2
- CNC Milling (Computer Numerieal Control)
- Prefabrieation Prineiples
- Gas Metal Are Welding 2

WHERE can this TAKE me?

To compete in the North American and global markets, the fabricated materials sector is investing in leading-edge technology and needs highly trained and talented people to manage and operate this teehnology. The CTS Fabrication Studies strand provides a base for fourteen oeeupations requiring high school edueation and for nine related trades. Thcse include:

- boiler makers
- contractors and supervisors
- forging machine operators
- ironworkers
- material engineering technologists
- plastics proeessing machine operators
- sprinkler systems installers
- steamfitters/pipefitters
- tool and die makers
- welders.

Post-secondary Education! Many careers in fabrication studies require some form of post-secondary education. In Alberta, numerous publie, private and vocational eolleges offer apprenticeship programs in this area.

In addition, you may be eligible to apply for either credits or advanced standing in some post-secondary programs.

See your counsellor for more information.

What ELSE do I need to know?

CTS Fashion Studies courses strongly support what you learn in:

- Art
- Drama
- Mathematics
- Social Studies
- CTS Career Transitions
- CTS Design Studies
- CTS Enterprise and Innovation
- CTS Management and Marketing.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies

FASHION STUDIES

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

The fashion industry is the second largest employer in Alberta's consumer products industry. At the same time, it is a growing economic link between Canada and other nations. Canadian designers, producers and merchandisers are thriving in the international fashion industry. CTS Fashion Studies can make you a part of this enterprise by giving you knowledge of the fashion world, and the ability to design, construct and market fashion projects.

The CTS Fashion Studies strand provides an opportunity for you to explore:

- production
- design
- merchandising of clothing, textiles and accessories.

What will I LEARN in Fashion Studies?

At the introductory level, you study:

- basic sewing
- creative construction
- how to create home and personal accessories
- yarns and textiles
- repairing and recycling garments.

At the intermediate and advanced levels, you study:

- upholstery
- fashion dynamics
- fashion merchandising and retailing
- contemporary tailoring
- couture
- cultural fashions
- fashion illustration.

Fashion Studies Courses

Introductory

- Ready, Set, Sew!
- Fashion Basics
- Repair & Recycle
- Creating Accessories 1
- Creative Yarns/Textiles

Intermediate

- Fashion Dynamics
- Fashion Illustration 1
- CAD Patterns 1 (Computer-aided Design)
- Evolution of Fashion
- Flat Pattern
- Pattern Drafting 1
- Creative Construction
- Activewear
- Specialty Fabrics 1
- Sewing for Others
- Creating Home Decor
- Surface Embellishment
- Fashion Merchandising
- Upholstery
- Creating Accessories 2

Advanced

- Fashion Illustration 2
- CAD Patterns 2 (Computer-aided Design)
- Pattern Drafting 2
- Contemporary Tailoring
- Couture
- Creators of Fashion
- Cultural Fashions
- Specialty Fabrics 2
- Fashion Retailing

WHERE can this TAKE me?

The fashion industry in Alberta employs in design, production and retail, about 10 000 people, and generates annual revenues in the vicinity of $900 million. You can apply your personal interests, abilities and aptitudes in more than 30 occupations related to the fashion field. These include:

- fashion designers
- display designers
- image, social and other personal consultants
- industrial engineering and manufacturing technologists
- textile processing workers/supervisors
- patternmakers
- retail trade managers
- tailors, dressmakers, furriers
- theatre, fashion, exhibit and other creative designers.

Post-secondary Education! There are many opportunities in Alberta for post-secondary learning in the area of fashion. At the same time, there are a number of federal and industry initiatives to help you reach your career goals through active participation in this field.

See your counsellor for more information.

What ELSE do I need to know?

CTS Financial Management courses strongly support what you learn in:

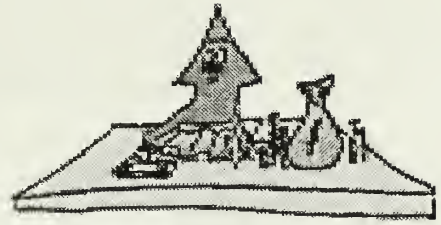
- English Language Arts
- Mathematics
- Social Studies
- CTS Career Transitions
- CTS Enterprise and Innovation
- CTS Information Processing
- CTS Management and Marketing.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



FINANCIAL MANAGEMENT

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

Financial management is required in all aspects of society. In the CTS Financial Management strand, you study the use of financial data to enable you to manage your own financial affairs and those of a small business.

The CTS Financial Management strand provides an opportunity for you to explore:

- ethics in personal and business financial management
- the application and analysis of financial information
- communicating
- researching/organizing
- decision making/problem solving
- how to use information and technology effectively
- team-playing
- managing
- planning.

What will I LEARN in Financial Management?

At the introductory level, you study:

- introduction to financial management
- accounting for a service business.

At the intermediate and advanced levels, you study:

- personal and small business taxation
- accounting for a merchandise business
- financial accounting
- forms of business organization
- financial planning and analysis.

Financial Management Courses

Introductory

- Financial Information
- Service Business 1 and 2

Intermediate

- Taxation (Personal & Small Business)
- Merchandising Business 1 and 2
- Financial Software
- Financial Simulation

Advanced

- Advanced Accounting
- Management Accounting
- Business Organizations
- Financial Statements
- Financial Analysis
- Financial Planning

WHERE can this TAKE me?

The CTS Financial Management strand offers you an opportunity to learn about the development and use of financial information, and to profitably apply this information to your personal and business life. The field of financial management offers many occupational opportunities. These include:

- accountants
- banking, credit and investment managers
- economic development officers
- economists
- financial and investment analysts
- financial planners
- insurance agents and brokers
- insurance adjusters and claims examiners
- investment advisors
- marketing researchers and consultants
- real estate agents and salespersons
- supervisors, finance and insurance clerks.

Post-secondary Education! Many businesses welcome people who are prepared to extend their training in one of the post-secondary programs in the financial management-related area. In Alberta, numerous public and private colleges and all universities offer education options in this field.

See your counsellor for more information.

What ELSE do I need to know?

CTS Foods courses strongly support what you learn in:

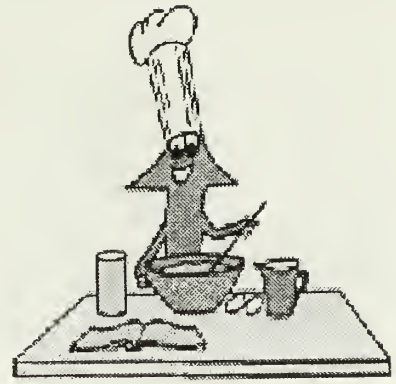
- Biology
- Chemistry
- Health and/or Personal Development
- Mathematics
- Science
- CTS Agriculture
- CTS Career Transitions
- CTS Community Health
- CTS Design Studies
- CTS Enterprise and Innovation
- CTS Management and Marketing
- CTS Tourism Studies.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



FOODS

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

One of every three jobs in Alberta is related to the agriculture and food industry. In a constantly changing society, our food needs will be met in increasingly varied ways. The CTS Foods strand will help you develop knowledge of the nature of food and nutrition, as well as skill in the preparation and presentation of food.

The CTS Foods strand provides an opportunity for you to explore:

- nature of food
- nutrition/health
- management
- safety, sanitation and equipment
- preparation, presentation and service of food
- consumerism/food selection
- multicultural aspects of food
- food and ecology
- how to create a career portfolio.

What will I LEARN in Foods?

At the introductory level, you study:

- food basics
- baking basics
- meal planning
- Canadian heritage foods.

At the intermediate and advanced levels, you study:

- nutrition and athletic performance
- food decisions and health
- creative baking
- short order cooking
- vegetarian cuisine
- international cuisine
- food processing
- the food entrepreneur.

Foods Courses

Introductory

- Food Basics
- Baking Basics
- Snacks & Appetizers
- Meal Planning 1
- Fast & Convenience Foods
- Canadian Heritage Foods

Intermediate

- Food & Nutrition Basics
- Nutrition & the Athlete
- Food Decisions & Health
- Cake & Pastry
- Yeast Breads & Rolls
- Milk Products & Eggs
- Stocks, Soups & Sauces
- Vegetables/Fruits/Grains
- Creative Cold Foods
- Basic Meat Cookery
- Fish & Poultry
- Meal Planning 2
- Vegetarian Cuisine
- Rush Hour Cuisine
- Food Safety & Sanitation
- Food Venture
- International Cuisine 1

Advanced

- Food for the Life Cycle
- Nutrition & Digestion
- Creative Baking
- Advanced Yeast Products
- Advanced Soups & Sauces
- Food Presentation
- Short Order Cooking
- Advanced Meat Cookery
- Basic Meat Cutting
- Entertaining with Food
- Food Processing
- Food Evolution/Innovation
- The Food Entrepreneur
- International Cuisine 2

WHERE can this TAKE me?

Jobs! An important part of the food industry in Canada is the food services industry, which employs many people. Occupations in this industry vary widely. They include:

- banqueting/catering supervisors
- bakers
- biological technicians and technologists
- butchers and meat cutters
- chefs/cooks
- food service supervisors
- manufacturing managers
- purchasing managers
- restaurant and food service managers
- testers and graders, foods and beverage processing.

Post-secondary Education! Many careers in the food industry require some form of post-secondary education. In Alberta, almost every college and university offers programs in this area. There are also numerous government and industry initiatives that provide continuing education programs.

In addition, you may be eligible to apply for either credits or advanced standing in some post-secondary programs.

See your counsellor for more information.

What ELSE do I need to know?

CTS Forestry courses strongly support what you learn in:

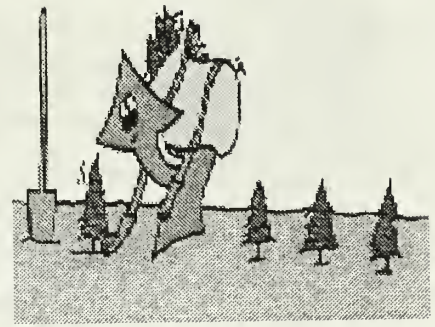
- Biology
- Physical Education
- Science
- Social Studies
- CTS Agriculture
- CTS Community Health
- CTS Energy and Mines
- CTS Legal Studies
- CTS Management and Marketing
- CTS Tourism Studies
- CTS Wildlife.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



FORESTRY

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

Forested lands in Alberta and Canada provide resources important to our economic strength and quality of life. The CTS Forestry strand gives you an opportunity to learn about the dynamics of a forest ecosystem and the many benefits and industry practices associated with our use of the forested lands.

The CTS Forestry strand provides an opportunity for you to explore:

- the economic, environmental and social significance of forested lands
- forest ecology
- recreational use of forests
- silviculture and harvest practices
- technologies and research programs
- sustainable management and conservation
- environmental protection.

What will I LEARN in Forestry?

At the introductory level, you study:

- forest regions of Canada
- mapping and aerial photography
- forest ecology.

At the intermediate and advanced levels, you study:

- managing Alberta's forested lands
- measuring the forest
- harvesting and forest products
- issues in forestry
- forest technology applications
- silviculture.

Forestry Courses

Introductory

- Why Forestry?
- Forest Regions of Canada
- Outdoor Experiences 1 (Survival Skills)
- Mapping & Aerial Photos
- Measuring the Forest 1 (Measurement Skills)
- Forest Ecology 1 (Ecosystem Dynamics)
- Forests Forever 1 (Forest Use & Protection)

Intermediate

- Making a Difference (Protection & Stewardship)
- Managing Alberta Forests
- Outdoor Experiences 2 (Wilderness Excursion)
- Measuring the Forest 2 (Sampling Techniques)
- Harvest Practices (Fibre Harvest & Processing)
- Forests Forever 2 (Management Practices)
- Users in the Forest

Advanced

- Issues in Forestry
- Measuring the Forest 3 (Survey Applications)
- The Forest Marketplace
- Forest Technology Applications
- Forest Ecology 2 (Silvics & Succession)
- Silviculture (Growing the Forest)
- Integrated Resource Management (Balancing Needs)

WHERE can this TAKE me?

Jobs! As forests cover almost two-thirds of Alberta, forestry is one of the major industries in the province, offering a wide variety of employment opportunities. Occupations related to this field include:

- botanists
- biochemists
- biologists
- environmental education specialists
- environmental engineers
- forest technologists
- hazardous waste management technicians
- hydrologists
- land surveyors
- logging and forestry workers
- pollution control technicians
- sawmill machine operators
- silviculture and forestry supervisors.

Post-secondary Education! About two-thirds of the careers in forestry require some form of post-secondary education. In Alberta, almost every college and university offers programs in this area.

In addition, you may be eligible to apply for either credits or advanced standing in some post-secondary programs.

See your counsellor for more information.

What ELSE do I need to know?

CTS Information Processing courses strongly support what you learn in:

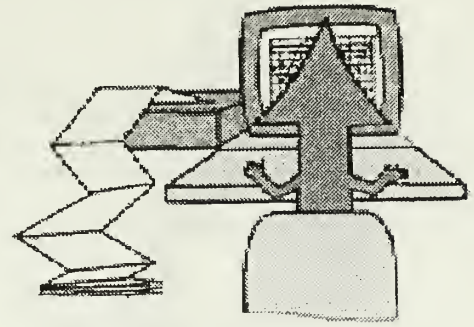
- English Language Arts
- Mathematics
- Science
- Social Studies
- CTS Career Transitions
- CTS Communication Technology
- CTS Design Studies
- CTS Enterprise and Innovation
- CTS Financial Management
- CTS Foods
- CTS Management and Marketing
- CTS Tourism Studies.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



INFORMATION PROCESSING

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

Accurate, timely information is the basis for sound decision making and effective communication. In the CTS Information Processing strand, you study electronic information technologies as they apply to personal use and the business environment.

The CTS Information Processing strand provides an opportunity for you to explore:

- system operations
- text/data input
- productivity software
- applied processing
- dynamic environments
- programming.

What will I LEARN in Information Processing?

At the introductory level, you study:

- computer operations
- word processing
- graphics tools
- media tools
- programming
- the information highway.

At the intermediate and advanced levels, you study:

- hardware/software analysis
- telecommunications
- local area networks
- electronic publishing
- expert systems
- word processing applications
- Internet services
- programming applications.

Information Processing Courses

Introductory

- Computer Operations
- Keyboarding 1
- Word Processing 1
- Graphics Tools
- Database 1
- Spreadsheet 1
- Hypermedia Tools
- Programming 1
- Information Highway 1

Intermediate

- Workstation Operations
- Keyboarding 2 and 3
- Word Processing 2
- Electronic Publishing 1
- Database 2
- Spreadsheet 2
- Correspondence
- Reports
- Tables/Forms
- Software Integration 1
- Multimedia Authoring 1
- Process Control
- Programming 2, 3, 4 and 5
- Telecommunications 1
- Information Highway 2

Advanced

- Hardware/Software Analysis
- Local Area Networks
- Keyboarding 4, 5 and 6
- Word Processing 3
- Electronic Publishing 2
- Information Management Tools
- Specialization 1 and 2
- Software Integration 2 and 3
- Multimedia Authoring 2
- Expert Systems
- Programming Application 1, 2 and 3
- Telecommunications 2
- Information Highway 3
- Internet Services

WHERE can this TAKE me?

Jobs! Today, electronic technologies are crucial for managing information efficiently. Skills and knowledge acquired in the area of information processing can be used in a wide variety of occupations. These include:

- administrative officers
- computer engineers
- computer programmers
- demographers
- desktop publishing specialists
- economists
- health record administrators
- information systems consultants
- librarians
- secretaries
- survey interviewers and statistical clerks.

Post-secondary Education! About two-thirds of the careers in information processing require some form of post-secondary education. In Alberta, almost every college and university offers programs in this area.

See your counsellor for more information.

What ELSE do I need to know?

CTS Legal Studies courses strongly support what you learn in:

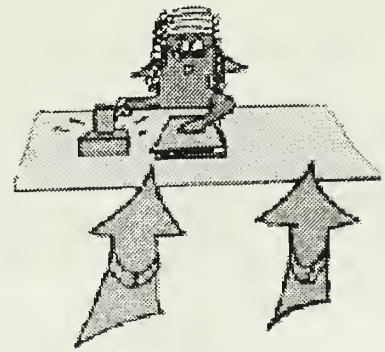
- English Language Arts
- Personal Development
- Social Studies
- CTS Agriculture
- CTS Career Transitions
- CTS Construction Technologies
- CTS Energy and Mines
- CTS Enterprise and Innovation
- CTS Fabrication Studies
- CTS Forestry
- CTS Tourism Studies
- CTS Wildlife.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



LEGAL STUDIES

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

The law is fundamental to society. The CTS Legal Studies strand offers you the opportunity to learn basic and practical information about the law, the ways in which it affects your daily life, and how you can participate in its evolution.

The CTS Legal Studies strand provides an opportunity for you to explore:

- decision making
- problem solving
- communicating
- critical thinking
- rights and responsibilities imposed by the law
- ability to influence the law
- career options related to the law.

What will I LEARN in Legal Studies?

At the introductory level, you study:

- law in the personal context.

At the intermediate and advanced levels, you study:

- family law
- labour law
- environmental law
- criminal law
- consumer and property law
- dispute resolution
- laws affecting small business
- controversy and change
- landmark decisions.

Legal Studies Courses

Introductory

- You & the Law 1 (as a Consumer and as a Family Member)
- You & the Law 2 (in Society and in the Workplace)

Intermediate

- Family Law
- Labour Law
- Environmental Law
- Law & the Traveller

Advanced

- Consumer & Property Law
- Dispute Resolution
- Negligence
- Law & Small Business
- Controversy & Change
- Landmark Decisions
- Criminal Law

WHERE can this TAKE me?

There are many law-related occupational opportunities available to you, including:

- correctional officers
- court clerks
- court reporters
- customs inspectors
- immigration officers
- judges
- land titles examiners
- lawyers
- parole officers
- private investigators
- sheriffs and bailiffs.

Post-secondary Education! Although the CTS Legal Studies strand is designed to provide you with the knowledge and skills needed in the workplace, many law-related careers require post-secondary training. All major colleges and universities in Alberta offer programs in this area.

See your counsellor for more information.

What ELSE do I need to know?

CTS Logistics courses strongly support what you learn in:

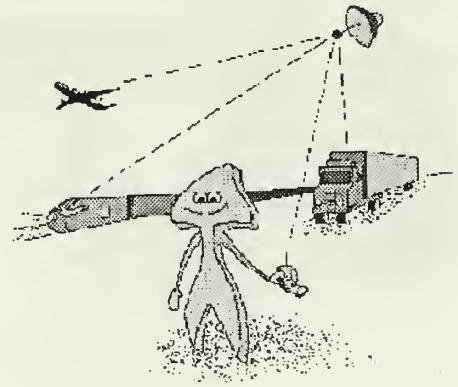
- Social Sciences
- Social Studies.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



LOGISTICS

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

Logistics systems occupy unique places in our economy. They provide solutions for the movement of goods from producer to consumer. The CTS Logistics strand offers you insight into the process of moving goods by land, air, water and in space, and the ways in which this movement affects all facets of our daily lives, our environment, and the areas of business and commerce.

The CTS Logistics strand provides an opportunity for you to explore:

- designing
- controlling
- implementing
- managing
- operating the transportation of goods, including information.

What will I LEARN in Logistics?

At the introductory level, you study:

- introduction to logistics
- warehousing and distribution
- traffic and transportation.

At the intermediate and advanced levels, you study:

- advanced warehousing and distribution
- purchasing
- inventory management and control.

Logistics Courses

Introductory

- Logistics
- Warehouse & Distribute 1
- Traffic & Transport 1
- Purchasing 1

Intermediate

- Warehouse & Distribute 2
- Traffic & Transport 2
- Purchasing 2
- Inventory Management 1

Advanced

- Warehouse & Distribute 3
- Traffic & Transport 3
- Purchasing 3
- Inventory Management 2

WHERE can this TAKE me?

The logistics sector is both diverse and complex, and it is an essential force in the social, cultural and economic development of Canada. This sector links Canadians to other nations and markets, providing many challenging and rewarding career opportunities for qualified people. These include:

- aerospace engineers
- aircraft assembly inspectors
- aircraft mechanics
- air traffic controllers
- couriers and messengers
- deck officers, water transport
- facility operations managers
- postal and courier services managers
- railway and marine traffic controllers
- retail trade managers
- technical inspectors
- truck drivers.

Linkages exist with all other CTS strands where products and information are produced, moved to and finally reach the ultimate consumers.

Post-secondary Education! Many of the systems and strategies introduced in the CTS Logistics strand lead to further learning and specialization, either through workplace experience or post-secondary study.

See your counsellor for more information.

What ELSE do I need to know?

CTS Management and Marketing courses strongly support what you learn in:

- Fine Arts
- English Language Arts
- Mathematics
- Social Studies
- CTS Career Transitions
- CTS Communication Technology
- CTS Design Studies
- CTS Enterprise and Innovation
- CTS Fashion Studies
- CTS Financial Management
- CTS Information Processing
- CTS Logistics.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies

MANAGEMENT AND MARKETING

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

In today's rapidly changing, competitive society no matter what you do, you manage and market yourself, resources available to you, your services or the products you make. The CTS Management and Marketing strand offers you the skills to organize and work with people in an effective manner, and helps you identify strategies for managing and marketing products, services and information.

The CTS Management and Marketing strand provides an opportunity for you to explore:

- business management
- marketing
- information management
- organizing and planning
- leading, monitoring and communicating
- problem solving
- decision making.

What will I LEARN in Management and Marketing?

At the introductory level, you study:

- management and marketing basics
- quality customer service
- communication strategies.

At the intermediate and advanced levels, you study:

- office systems
- advertising and promotion
- retail operations
- records management
- business in the Canadian and global marketplace
- setting up a retail store.

Management and Marketing Courses

Introductory

- Management & Marketing Basics
- Quality Customer Service
- Communication Strategies 1

Intermediate

- Managing for Quality
- Promotion: Visual Merchandising
- Retail Operations
- Office Systems 1
- Communication Strategies 2
- Records Management 1
- Promotion: Print Advertising

Advanced

- The Business Organization
- Business in the Canadian Economy
- Business in the Global Marketplace
- Promotion: Sales Techniques
- Distributing Goods & Services
- Setting Up a Retail Store
- Office Systems 2
- Communication Strategies 3
- Records Management 2
- Promotion: Broadcast Advertising

WHERE can this TAKE me?

The CTS Management and Marketing strand offers you the knowledge and skills in retail, business and information management necessary for the competitive work environment. This strand can help you explore a wide range of career opportunities, including:

- architecture and science managers
- banking, credit and investment managers
- construction managers
- economic development officers
- financial managers
- health care managers
- market research analysts
- property managers
- sales, marketing and advertising managers
- transportation managers.

Post-secondary Education! Many of the systems and strategies introduced in the CTS Management and Marketing strand lead to further learning and specialization, either through workplace experience or post-secondary study.

See your counsellor for more information.

What ELSE do I need to know?

CTS Mechanics courses strongly support what you learn in:

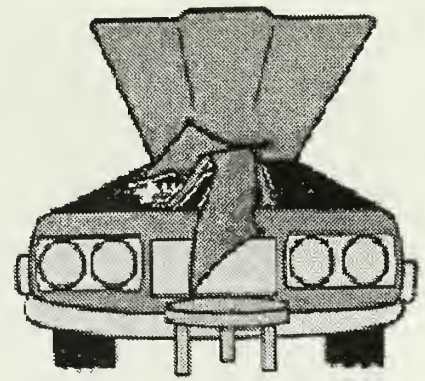
- English Language Arts
- Mathematics
- Science
- CTS Agriculture
- CTS Career Transitions
- CTS Construction Technologies
- CTS Electro-Technologies
- CTS Enterprise and Innovation
- CTS Fabrication Studies.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



MECHANICS

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

The transportation industry is very large and diverse, offering many opportunities for a rewarding career, either in design and production or in servicing of motor vehicles. The CTS Mechanics strand will help you recognize these opportunities and turn them into rewarding, lucrative careers.

The CTS Mechanics strand provides an opportunity for you to explore:

- vehicle design and ownership
- propulsion systems
- guidance and control systems
- suspension and structural systems
- project and service work.

What will I LEARN in Mechanics?

At the introductory level, you study:

- modes and mechanisms
- vehicle service and care
- engine fundamentals
- pneumatic and hydraulic systems.

At the intermediate and advanced levels, you study:

- vehicle detailing
- alternative fuel systems
- power trains
- vehicle value appraisal
- safety systems
- structural damage repair.

Mechanics Courses

Introductory

- Modes & Mechanisms
- Vehicle Service & Care
- Engine Fundamentals
- Electrical Fundamentals
- Pneumatics & Hydraulics
- Mechanical Systems
- Ride & Control Systems
- Structures & Materials
- Metal Forming & Finishing
- Surface Preparation 1

Intermediate

- Vehicle Detailing
- Vehicle Maintenance
- Lubrication & Cooling
- Fuel & Exhaust Systems
- Alternative Fuel Engines
- Ignition Systems
- Emission Controls
- Electrical Components
- Power Assist Accessories
- Braking Systems
- Hydraulic Accessories
- Drive Trains
- Transmissions/Transaxles
- Suspension Systems
- Steering Systems
- Metal Repair & Finishing
- Trim Replacement
- Surface Preparation 2
- Refinishing 1
- Touch-up & Finishing
- Interior Repairs

Advanced

- Buying & Selling Vehicles
- Vehicle Value Appraisal
- Engine Diagnosis
- Engine Tune-up
- Engine Replacement
- Engine Reconditioning 1 and 2
- Alternative Energy Systems
- Computer Systems

Advanced (continued)

- Safety Systems
- Climate Control
- Power Assisting
- Automatic Transmissions
- Drive Train Repair
- Wheel Alignment
- Body Repair Estimation
- Damage Analysis
- Damage Repair 1 and 2
- Refinishing 2
- Plastic & Fibreglass
- Glass Replacement
- Refinishing 3

WHERE can this TAKE me?

The CTS Mechanics strand offers you hands-on experience, knowledge and skills related to the design and maintenance of transportation vehicles, and the effect they have on the environment and the economy. This is an educational opportunity that introduces you to a wide variety of occupations in this field, including:

- aircraft maintenance engineers
- agriculture mechanics
- auto body technicians
- automotive service technicians
- electronic assemblers, fabricators, inspectors and testers
- elevator constructors
- machine fitters
- manufacturing managers
- mechanical engineers.

Post-secondary Education! The majority of occupations in mechanics require additional apprenticeship or vocational training.

See your counsellor for more information.

What ELSE do I need to know?

CTS Tourism Studies courses strongly support what you learn in:

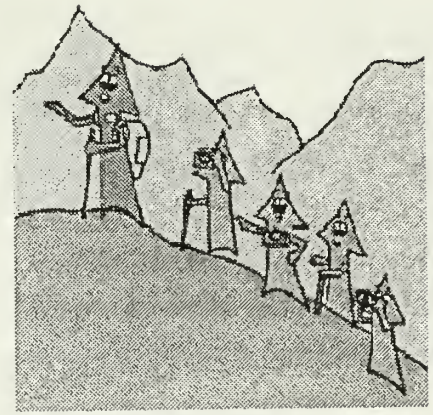
- Fine Arts
- English Language Arts
- Social Studies
- CTS Agriculture
- CTS Career Transitions
- CTS Communication Technology
- CTS Enterprise and Innovation
- CTS Foods
- CTS Forestry
- CTS Management and Marketing
- CTS Wildlife.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



TOURISM STUDIES

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

Tourism is one of Alberta's fastest growing industries. Tourism employs many people and generates billions of dollars of revenue for the province each year. A large part of the province's tourism business comes from Albertans travelling within their own province.

The CTS Tourism Studies strand provides an opportunity for you to explore the tourism industry in general and delve into the four sectors:

- food
- accommodation
- travel
- attractions.

What will I LEARN in Tourism Studies?

At the introductory level, you study:

- the tourism industry
- quality guest service
- food sector
- travel sector
- accommodation sector
- attractions sector.

At the intermediate and advanced levels, you study:

- tourism events
- meetings and conferences
- tourism destinations
- travel planning
- tourism interpretation
- alternative accommodations
- adventures and ecotourism.

Tourism Studies Courses

Introductory

- The Tourism Industry
- People & Places
- Quality Guest Service
- The Food Sector
- The Accommodation Sector
- The Travel Sector
- The Attractions Sector

Intermediate

- Tourism Events
- Food Functions
- Meetings & Conferences
- Tourism Destinations 1 and 2
- Travel Planning
- Tourism Interpretation 1 and 2

Advanced

- Food Service Operations
- Hotel/Motel Operations
- Alternative Accommodations
- Travel Agency Operations
- Reservations & Ticketing
- Air Transportation
- Surface Transportation
- Attractions Operations
- Adventure & Ecotourism

WHERE can this TAKE me?

Tourism is a sustainable industry. It encompasses business, organizations, labour and government agencies that provide transportation, goods, services, accommodation and other facilities and programs. The tourism industry offers a great scope of occupations and career paths, including:

- accommodation service managers
- amusement attraction operators
- banquet catering supervisors
- conference and event planners
- entrepreneurs
- interpretative naturalists
- outdoor sport and recreation guides
- pursers and flight attendants
- recreation and sports directors
- small business owners/operators
- social planners
- travel consultants.

Post-secondary Education! Many occupations in tourism require additional training in colleges or universities. Related programs are offered at most post-secondary institutions in Alberta.

See your counsellor for more information.

What ELSE do I need to know?

CTS Wildlife courses strongly support what you learn in:

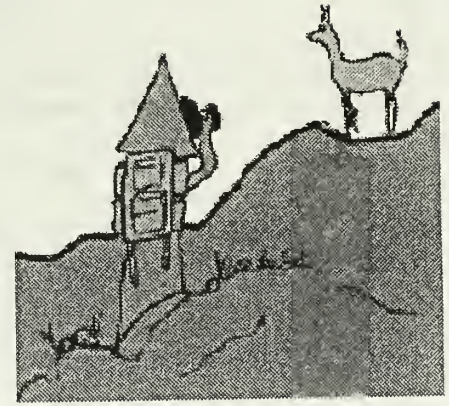
- Biology
- English Language Arts
- Physical Education
- Science
- Social Studies
- CTS Agriculture
- CTS Career Transitions
- CTS Community Health
- CTS Forestry
- CTS Legal Studies
- CTS Tourism Studies.

FOR FURTHER INFORMATION ABOUT CTS:

- visit the Alberta Learning Web site at <http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/cts/>
- contact the Program Manager, Career and Technology Studies, Curriculum Branch, Alberta Learning, telephone 780–427–2984, fax 780–422–3745. Inside Alberta, dial 310–0000 to be connected toll free.

School systems/schools please contact the CTS Program Coordinator for your jurisdiction.

Career and Technology Studies



WILDLIFE

(Revised 2002)

Alberta LEARNING

WHAT'S it all ABOUT?

Canada is one of the few places in the world that still contains large natural ecosystems. Natural and wilderness areas contribute greatly to the quality of life and the functioning of the global ecosystem. The CTS Wildlife strand offers you the opportunity to learn about wild organisms and their habitats, and to examine your relationship with the natural environment.

The CTS Wildlife strand provides an opportunity for you to explore:

- the economic, environmental and social significance of wildlife
- trends in habitat and populations
- interactions between wildlife and society
- technologies and research programs
- sustainable management and conservation of species and ecosystems.

What will I LEARN in Wildlife?

At the introductory level, you study:

- natural history of Alberta wildlife
- related hunting and game management
- outdoor experiences
- fishing and aquatic environment.

At the intermediate and advanced levels, you study:

- measuring the value of wildlife
- wildlife spaces and species
- interactions of wildlife and society
- wildlife management
- application of wildlife research
- issues in wildlife.

Wildlife Courses

Introductory

- What Is Wildlife?
- Natural History of Wildlife
- Outdoor Experiences 1 (Survival Skills)
- Taking Responsibility (People, Culture & Wildlife)
- Hunting & Game Management 1 (Ethics/Game Identification)
- Angling & Fish Management

Intermediate

- Measuring the Value (Diversity of Wildlife Values)
- Outdoor Experiences 2 (Wilderness Excursion)
- Wildlife Spaces & Species
- Interactions (Wildlife & Society)
- Hunting & Game Management 2 (Field Techniques/Regulations)
- Issues in Wildlife 1 (Research & Analysis)

Advanced

- Making a Difference (Protection & Stewardship)
- Wildlife Research
- Wildlife Management 1 (Basic Principles)
- Wildlife Management 2 (Applications)
- Issues in Wildlife 2 (Negotiation & Debate)

WHERE can this TAKE me?

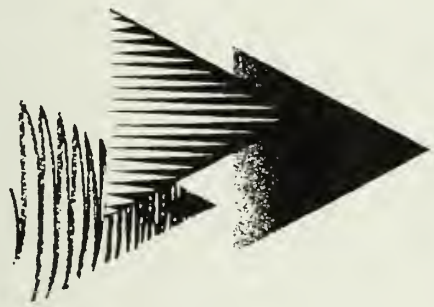
Changes to ecosystems, brought about by global warming and the effects of air pollutants, threaten both wildlife and people. The CTS Wildlife strand offers you an opportunity to fulfill social, cultural and economic goals through responsible use of natural resources, and to apply this knowledge to a broad range of career paths. Occupations in this field include:

- animal health technologists
- biochemists
- botanists
- environmental engineers
- hazardous waste management technicians
- hydrologists
- marine biologists
- oceanographers
- park rangers
- pollution control technicians
- veterinarians.

Post-secondary Education! The majority of wildlife-related occupations require additional post-secondary education. Numerous institutions in Alberta offer programs in this area.

In addition, you may be eligible to apply for either credits or advanced standing in some post-secondary programs.

See your counsellor for more information.



CAREER & TECHNOLOGY STUDIES

Manual for Administrators, Counsellors and Teachers

Appendix 6:

Policies and Guidelines for Implementing CTS Courses in Senior High Schools

2002

The information provided in this appendix may be time sensitive; teachers, counsellors and administrators are encouraged to consult the current Guide to Education: ECS to Grade 12 *and* Funding Manual for School Authorities *on an ongoing basis about policies and guidelines for implementing CTS courses.*

TABLE OF CONTENTS

ACCESS TO INSTRUCTION

Reference:
Guide to Education: ECS to Grade 12, September 2001, Senior High School Programming (pages 37–39).

Any method of instructional delivery must ensure that each student has access to a minimum of 25 hours of instruction per credit. Access to instruction means there are designated times when teachers are available to the students, and students know, prior to enrolling in courses, how and when they will be able to access the instructional expertise of teachers. Schools can deliver a block of three, 1-credit CTS courses for 62.5 hours; however, schools must ensure that students meet all of the outcomes of each 1-credit course.

PREREQUISITE COURSES

Reference:
Guide to Education: ECS to Grade 12, September 2001, Awarding Course Credits (pages 116–117).

The waiver provision for prerequisites in regular (non-CTS) courses does not apply to CTS courses. That is, prerequisite requirements for CTS courses must be met through successful completion of the prerequisite course, or successful challenge of the prerequisite course. The only circumstance that allows a CTS prerequisite to be waived is for the senior high school principal to accept a recommendation from the junior high school principal to place a Grade 10 student into a higher level 1-credit course that requires a prerequisite.

INTEGRATING CTS COURSES WITH NON-CTS COURSES

Reference:
Guide to Education: ECS to Grade 12, September 2001, Senior High School Programming (pages 39–40).

Schools may integrate CTS courses with non-CTS courses when the integration provides opportunities to apply the course content in a practical and career-related context. When schools integrate a CTS course with a non-CTS course, the following shall apply:

- the teachers who provide or supervise the instruction are certificated and knowledgeable about both the CTS and non-CTS course
- prior to registration, schools provide information to parents and students about the philosophy of each of the integrated courses, the outcomes of each of the integrated courses and how student learning will be assessed in each of the integrated courses
- information and counselling services make clear that registration in an integrated course is optional
- students have access to a minimum of 25 hours of instruction per credit
- teachers offer each of the integrated courses in accordance with the approved programs of study

- students meet the standards specified in the 1-credit CTS course for all outcomes within that 1-credit course in order for a teacher to provide a passing grade in the CTS component
- the CTS course and the non-CTS course must be graded separately, and credits must be awarded and reported separately
- if a CTS course is being integrated with a non-CTS course, then any prerequisite to the CTS course must be met first
- a student who has already gained credit in the integrated 1-credit CTS course is not eligible to earn another credit for the same 1-credit CTS course.

CTS COURSE COMPLETION

Reference:
- *Guide to Education: ECS to Grade 12,* September 2001, Senior High School Programming (pages 39–40)
- *Guides to Standards and Implementation* (Sections D, E, F in each of the 22 CTS strands)
- *CTS Manual for Administrators, Counsellors and Teachers* (pages 43–44).

Students must be individually assessed and graded on each 1-credit CTS course taken.

Successful completion of a CTS course at the senior high school level is based on demonstrating all of the general outcomes for any given course to the standard defined for each competency. This means that a student must be individually assessed on each of the general outcomes defined for the course in the program of studies. When a student is able to successfully demonstrate all of the general outcomes for any given CTS course, the teacher designates the course as successfully completed and assigns a percentage grade for the course—a mark not less than 50%.

Practices of placing students in an all-or-nothing situation by assessing course completion on the basis of a single assignment should be reviewed. If circumstances warrant that 100% of the assessment for a CTS course be based on one comprehensive assignment, then it must be clearly evident how the assignment addresses each of the general outcomes, and the records maintained must demonstrate that the student was individually assessed on each general outcome.

In situations where a CTS course is integrated into regular courses, it is still necessary to assess CTS course outcomes separately. It is also necessary to inform students that they have been registered in the CTS course and that if they fail to complete the course, a mark of incomplete will be assigned. Schools must make it clear that registration in an integrated course is optional. Students may elect not to participate in the CTS component of an integrated course without having any mark placed on their record.

As a competency-based curriculum, CTS defines curriculum standards—what students must know and be able to do—and assessment standards—the criteria and conditions for assessing

student performance. Curriculum and assessment standards are defined for each 1-credit course in the *CTS Guides to Standards and Implementation* through:

- module learner expectations in the 1997 documents and general outcomes in the 1999, 2000 and 2001 documents—the exit-level competencies that students are expected to achieve to complete a course
- assessment criteria and conditions—the behaviours a student must demonstrate to achieve each exit-level competency and the conditions under which that competency should be judged
- suggested emphases—guidelines for the relative significance of each module learner expectation/general outcome. Though not prescriptive, the suggested emphases should be used as a guide to allocate instructional time and determine percentage marks for a course.

Consistent application of curriculum and assessment standards throughout the learning process is critical to maintaining the credibility of CTS courses and preparing students for successful transitions to further study and the workplace.

CTS FUNDING ELIGIBILITY

Reference:
- *Funding Manual for School Authorities, 2001/2002 School Year*, Sections 1.A.1, Basic Instruction Funding (page 3 of 8)
- *Guides to Standards and Implementation* (Sections D, E, F in each of the 22 CTS strands).

Funding eligibility for a CTS course is based on course completion rate. A 1-credit CTS course is eligible for funding when a student has responded to instruction in at least 50% of the course content. In contrast to funding criteria for regular (non-CTS) courses, course content completion rate is the **sole criterion** for CTS funding eligibility.

When determining course completion rate, schools can take into account the suggested emphasis for each general outcome as provided in the *CTS Guides to Standards and Implementation*. A course completion rate of at least 50% could be met when a student has responded to instruction in at least one half of the course content as defined by the general outcomes, taking into account the respective emphasis of each general outcome within the course.

Sample Course Framework:

General Outcome	Suggested Emphasis
A	50%
B	30%
C	20%
D	Integrated throughout

In this sample course framework, funding eligibility requirements; i.e., a course completion rate of at least 50%, would be met if a student had received access to instruction in, and demonstrated effort in, the course work related to any of the following:

- General Outcome A
- General Outcomes A and B
- General Outcomes A and C
- General Outcomes B and C
- General Outcomes A, B and C.

Schools are required to maintain and retain documentation that students have met funding requirements. Documentation should include a course outline and student evaluation records that reflect access to, and effort in, work related to at least one half of the course content.

When a school has reported a CTS course as incomplete but eligible for funding at the end of a term, and then subsequently reports it as completed in the following term, the school should delete the previous incomplete course and resubmit the completed mark in the new term. If instruction in the course has only been delivered once, it can only be funded once.

REPORTING UNSUCCESSFUL CTS COURSES

Reference:
Funding Manual for School Authorities, 2001/2002 School Year, Sections 1.A.1, Basic Instruction Funding (page 6 of 8).

When reporting unsuccessful CTS courses, an incomplete (INC) status occurs when a student is registered throughout a course yet does not complete all of the learner outcomes. A withdrawal (WDR) status occurs when a student chooses not to complete a course and the school wishes to officially remove that course from the student record. No mark is submitted with either a course completion status of INC or WDR. However, eligibility for funding must be indicated in both instances if the criterion for funding as outlined above has been met.

A school cannot request funding for a CTS course more than once when the course has only been delivered once. Schools will need to delete the previous incomplete course and resubmit the completed mark in the new term. The course will only be funded once, at the most current rate.